FRAMEWORKS FOR GENERATION OF JAVA™ MACRO INSTRUCTIONS IN JAVA™ COMPUTING ENVIRONMENTS

ABSTRACT OF THE DISCLOSURE

[0057] Techniques for generation of Java™ macro instructions suitable for use in Java™ computing environments are disclosed. As such, the techniques can be implemented in a Java™ virtual machine to efficiently execute Java™ instructions. As will be appreciated, a Java™ macro instruction can be substituted for two or more Java™ Bytecode instructions. This, in turn, reduces the number of Java™ instructions that are executed by the interpreter. As a result, the performance of virtual machines, especially those operating with limited resources, is improved. A Java™ macro instruction can be generated for conventional Java™ instruction sequences or sequences of Java™ instruction that are provided in a reduced set of instruction. In any case, sequences that are frequently encountered can be replaced by a Java™ macro instruction. These sequences are typically encountered when Java™ objects are instantiated, during programming loops, and when a local variables are assigned a value.